

1 **What is claimed is:**

2 1. A DC brushless motor structure comprising:

3 a base comprising a through-hole having a first end and a second
4 end having a first axle hole, a lid being engaged with the first end of the
5 through-hole and having a second axle hole, the base having a wall, at
6 least two sets of windings being mounted to the wall of the base, an IC
7 control means being mounted on the base and electrically connected to
8 said at least two sets of windings; and

9 a rotor comprising a shaft and a permanent magnet having a north
10 pole and a south pole, the shaft being rotatably received in the second
11 axle hole of the lid and the first axle hole of the base, a repulsive
12 magnetic force is directly created between the permanent magnet and
13 said at least two sets of windings, thereby driving the rotor to turn.

14 2. The DC brushless motor structure as claimed in claim 1, wherein each
15 of the second axle hole of the lid and the first axle hole of the chamber
16 comprises a bearing mounted therein.

17 3. The DC brushless motor structure as claimed in claim 1, wherein the
18 wall of the base has at least two mounting members for mounting said
19 at least two sets of windings.

20 4. The DC brushless motor structure as claimed in claim 3, wherein each
21 of the mounting members is a countersink.

22 5. The DC brushless motor structure as claimed in claim 3, wherein each
23 of the mounting members is an outwardly projecting peg.

24 6. The DC brushless motor structure as claimed in claim 1, further
25 comprising two washers mounted on the shaft of the rotor and
26 respectively located on two ends of the permanent magnet.

27 7. The DC brushless motor structure as claimed in claim 1, wherein the
28 base comprises at least one rib on an outer face of the wall.

- 1 8. The DC brushless motor structure as claimed in claim 7, further
2 comprising a casing mounted around the outer face of the wall of the
3 base.
- 4 9. The DC brushless motor structure as claimed in claim 8, wherein the lid
5 is engaged with an end of the casing.
- 6 10. The DC brushless motor structure as claimed in claim 1, wherein the IC
7 control means comprises a driving circuit and a Hall element.
- 8 11. The DC brushless motor structure as claimed in claim 1, wherein the
9 shaft of the rotor has an end extending beyond the lid.
- 10 12. The DC brushless motor structure as claimed in claim 11, further
11 comprising an eccentric element coupled to the end of the shaft beyond
12 the lid.
- 13 13. The DC brushless motor structure as claimed in claim 11, further
14 comprising a fan wheel coupled to the end of the shaft beyond the lid.
- 15 14. A DC brushless motor structure comprising:
16 a base comprising a through-hole and a wall, at least two sets of
17 windings being mounted to the wall of the base, an IC control means
18 being mounted on the base and electrically connected to said at least two
19 sets of windings; and
20 a rotor comprising a shaft and a permanent magnet having a north
21 pole and a south pole, the shaft being rotatably received in the through-
22 hole of the base, the permanent magnet surrounding the base, a repulsive
23 magnetic force is directly created between the permanent magnet and
24 said at least two sets of windings, thereby driving the rotor to turn.
- 25 15. The DC brushless motor structure as claimed in claim 14, wherein the
26 through-hole of the base has an inner diameter greater than an outer
27 diameter of the shaft of the rotor, the through-hole has a first end and a
28 second end, a support member being mounted in the first end of the
29 through-hole, a lid being engaged with the second end of the through-

hole and having an axle hole through which an end of the shaft extends,
the supporting member supporting another end of the shaft.

16. The DC brushless motor structure as claimed in claim 15, wherein the
support member has an arcuate recess for supporting said another end
of the shaft.

17. The DC brushless motor structure as claimed in claim 15, wherein the
axle hole of the lid has a bearing mounted therein for rotatably holding
the shaft.

18. The DC brushless motor structure as claimed in claim 14, wherein the
wall of the base has at least two mounting members for mounting said
at least two sets of windings.

19. The DC brushless motor structure as claimed in claim 18, wherein each
of the mounting members is a countersink.

20. The DC brushless motor structure as claimed in claim 18, wherein each
of the mounting members is an outwardly projecting peg.

21. The DC brushless motor structure as claimed in claim 14, wherein the
IC control means comprises a driving circuit and a Hall element.

22. The DC brushless motor structure as claimed in claim 14, wherein the
rotor has plural blades mounted thereon.